

49. *Obv.* Laureated profile and bust of Prince of Orange (Wm. III) facing left. DE HELD VAN WATERLOO.
Rev. An antique warrior descended from a horse is crushing with an enormous stone a conquered foe. *Neerlands Roem 18 Junij 1815 plegteg herdacht. 18 Junij 1865* Exergue, *De tiranny verslagen.*
50. *Obv.* A lion on a pedestal encircled by a trophy of arms and flags. On the pedestal, XVIII JUNIJ MDCCXV. *Legende, WATERLOO 1815-1865.*
Rev. The crowned escutcheon of the Netherlands supported by those of England and Prussia. Below, on a ribband, *Je maintiendrai. TER HERINNEG aan de roemrijke dagen van 1815.*
51. *Obv.* A helmet, sword and palm beneath the word WATERLOO, on which the sun is shedding its rays. Below, 16—18 Junij 1815. Exergue, MDCCCLXV.
Rev. In a laurel crown *De strik is gebroken, en wij zyn ontkomen. P^a. CXXIV v^a 7.*
52. *Medullion.* The lion on its pedestal with the date XVIII Junij MDCCXV surrounded by oak and laurel branches; below, DEUS NOSTER REFUGIUM ET VIRTUS. On the edge 1815-1865. WELLINGTON, BLUECHER, ORANJÉ.
53. *Obv.* Bust facing left. *Georg v. v. g. g. Kœnig v. Hannover.*
Rev. In a laurel crown, *Den Siegern bei Waterloo gewidmet am 18 Juni 1865.* On the edge *Nec aspera terrent.*
54. *Obv.* The arms of the City of Hanover. STADT HANNOVER DEN SIEGERN V. WATERLOO 18 JUNI 1815.
Rev. In a laurel crown, *Zur 50 Jahrgen jubelfeier am 18 Juni 1865.*

Stated Meeting, December 6, 1878.

Present, 13 members.

Vice-President, Mr. FRALEY, in the Chair.

Letters accepting membership were received from C. Schorlemmer, F.R.S., Professor of Organic Chemistry, Owens College, Manchester, Nov. 4, 1878, and from M. A. Des Cloizeaux, Paris, Nov. 10, 1878.

Letters of acknowledgment were received from the R. Library, Berlin (100; List); Natural History Society, Freiberg in Baden (99; 100; List); Oberhessische Gesellschaft, Giessen (100; want 99); Royal Society, Luxembourg (101); Statistical Society, London (100; Cat. part iii); Smithsonian Institution (101).

Letters of envoy were received from the Royal Irish Academy, Oct. 1878, and the Consul General of the Netherlands, New York, Nov. 22, 1878; and Prof. Jacob Ennis, Shippensburg, Dec. 3, 1878.

Donations for the Library were received from the Academies at St. Petersburg, Buda-Pesth, Berlin, Lisbon and Philadelphia; the Societies at Halle, Bamberg, Breslau, and Bordeaux; Flora Batava; London Nature; Nova Scotian Institute, Halifax; Prof. Ennis; Essex Institute; Mass. Historical Society; Museum of Comparative Zoölogy, Cambridge; American Journal of Science, and Prof. Marsh, of New Hampshire; New Jersey Historical Society; Mr. Robinson, of Philadelphia; the War Department, and Prof. Cleveland Abbé; Editor of the American Antiquarian, Cleveland, Ohio; the Botanical Gazette; Dr. J. W. Mallet, of Mexico, and Mr. Lane S. Hart, State Printer, Harrisburg.

A donation for the collection of portraits was received from Mr. Sol. W. Roberts, a portrait of the late Joseph Henry, in oils, framed and endorsed, "Prof. Joseph Henry, Sec'y of the Smithsonian Institution, &c. Born at Albany, New York, Dec. 17, 1797; Died at Washington, D. C., May 13, 1878, in his eighty-first year. This small portrait of Prof. Henry is presented to the American Philosophical Society by Solomon W. Roberts, Civil Engineer, Philad'a, Dec. 1878."

A paper, entitled "Descriptive List of Medals Struck to Commemorate the Battle of Waterloo. By Henry Phillips, Jr." was read by the Secretary.

Mr. Blasius exhibited and described an ingenious musical invention of Mr. Matthews, of Boston, on the principle of the Jacquard Loom, by which tunes are played, and the instruction of children in time and modulation is made easy.

Prof. Prime described the moraines and surface drift deposits of Northampton County, Pa., and exhibited their positions on a large map.

Prof. Prime described the glacial drift of Northampton County, Pennsylvania, as determined by him during the past Summer.

A glacial moraine may be traced from the Wind Gap in the Kittatinny Mountain through Ackermannville, Bangor and Williamsburg to Portland on the Delaware River. Crossing the river at this point it extends across New Jersey on to Long Island. This Moraine exhibits the hummock surface so common to glacial moraines everywhere; sometimes it contains peat beds; is often forty to sixty feet high, and is the cause of the marshy deposits so frequent in that portion of the country. Being easily cultivated and the soil quite productive it is usually cleared and cultivated.

West of the Wind Gap no glacial moraine can be seen as far as the Lehigh River. That it has existed, however, there is but little doubt and was probably washed away again by aqueous action to be re-deposited as modified drift over most of the limestone portion of the country north of the Lehigh, covering the limestone and rendering its structure difficult to determine. This modified drift is quite prominent at two points; one being on top of the hill where lies West Bethlehem, the other at Easton, in what is called West Ward, both at a height of about 320 feet above tide-level. At West Bethlehem the drift is distinctly stratified, consisting of alternated layers of sand and pebbles or small boulders. At Easton, however, such a bedding is not so distinct.

The fact that both of these deposits occur almost at the same level, would seem to indicate that they had been deposited contemporaneously by the same action, either fluvatile or due to a subsidence.

Another glacial moraine also exists in the Saucon Valley south of the Lehigh, it extends from Friedensville almost to Bingen station on the North Pennsylvania Railroad.

No trace of glacial action has been as yet noted in the Laurentain rocks forming the South Mountain in Northampton county, and the glaciers either passed around them or going over left no trace of their course. The former being probably the case.

In the discussion which followed Mr. Lesley added the following facts which touched upon the now so widely mooted questions relating to the Drift phenomena of the United States:

He remarked that there were similar isolated patches of gravel, each several hundreds of acres in extent, lying on the level upland of Delaware and Chester counties, south west of Philadelphia, and that these patches have about the same elevation above tide, say 350 feet.

The uppermost or gravel terrace along the north-west side of the valley of the Delaware River, the remains of which have been traced by Mr. Lewis, of Germantown, all the way from Wilmington, in Delaware, northward through Chester county and the Fairmount Park, half way to Trenton, is made by recent levels taken by Mr. Lewis and Mr. C. W. Ames to occupy about the same geological position. Mr. Lewis asserts that he has

identified this high level terrace at points in New Jersey on the south-eastern wall of the Delaware River Valley.

At the date of this terrace, whether in tertiary or post-tertiary times, tide water must have covered not only Chester and Delaware counties, but broad belts of inland, including the limestone plain of Northampton and Lehigh counties, and the sites of Easton and Bethlehem.

Professor Frazer has discovered two patches of drift gravel at points in Lancaster county, some miles back from the Susquehanna River, and distant from each other.

It is therefore probable that at the time of the deposit of these gravels a large part of south-eastern Pennsylvania, and in fact of the whole seaboard of the United States, was at least 400 feet under water.

Whether or not a greater depth of water can be assigned, may perhaps be settled by the lines of levels now being run by the Geological Survey to determine accurately the heights of the isolated gravel beds, in connection with the study of other parts of the State.

Mr. Lesley then referred to his discussion of the 1300 foot subsidence of Western Pennsylvania, published in his preface to Professor White's Report of Progress on Beaver county, but considered all present generalizations premature for want of sufficiently accurate data in a sufficient number of places.

It is possible that the remarkable terminal moraine described by the New Jersey geologists, and by Professor Prime, may have had its *geographical* position determined by the border of standing water (ocean) at the time when tide level stood at least 400 feet above its present datum.

The Annual report of the Treasurer was read.

Pending nomination No. 871 and new nomination 872 were read.

The Curators reported that the Cabinet of Antiquities had been removed to the Academy of Natural Sciences, on deposit, subject to demand, in accordance with the resolution of November 16, 1877, and receipted for by W. S. W. Ruschenberger, President of the Academy of Natural Sciences of Philadelphia.

The Curators reported that the Cabinet of Coins had been removed to the Pennsylvania Museum of Industrial Art in Fairmount Park, on deposit in the custody of the Numismatic and Antiquarian Society of Philadelphia, subject to demand, in accordance with the resolution of November 15, 1878, and receipted for by Henry Phillips, Jr., for that Society.

Both the above named collections are, by agreement with the respective societies, to be properly guarded, cared for, exhibited, and restored to the custody of this Society on demand.

On motion, the Curators were authorized to lend, for the use of the Curators of the Academy and Numismatic Society in constructing their respective catalogues of the articles thus deposited in their care, the catalogues in the Library of the American Philosophical Society.

And the meeting was adjourned.

Stated Meeting, December 20, 1878.

Present, 17 members.

Vice-President, Mr. FRALEY, in the Chair.

Letters of acknowledgment were received from the Royal Society, London, Nov. 27 (101); Victoria Institute, Dec. 3 (101); Royal Observatory, Bruxelles, Nov. 23 (101; Cat. part iii).

A letter of envoy was received from the United States Department of the Interior, Dec. 11, 1878.

A letter of envoy was received from M. Lubawsky, dated Nov. 24, 1878, Viarma, Russia.

A letter requesting exchanges was received from Mr. Jerome B. Gray, Corresponding Secretary of the Philosophical Society, West Chester, Pa., Dec. 12, 1878. On motion, the name of that Society was ordered to be placed on the list to receive the Proceedings from the beginning.

Also from Rev. Stephen D. Peet, Editor of the American Antiquarian, Cleveland, Ohio, and Corresponding Secretary of the American Anthropological Society and State Archaeological Association of Ohio. On motion, Mr. Peet's name was ordered to be placed on the list to receive the Proceedings from the beginning.

A catalogue of and receipt for the coins and medals de-